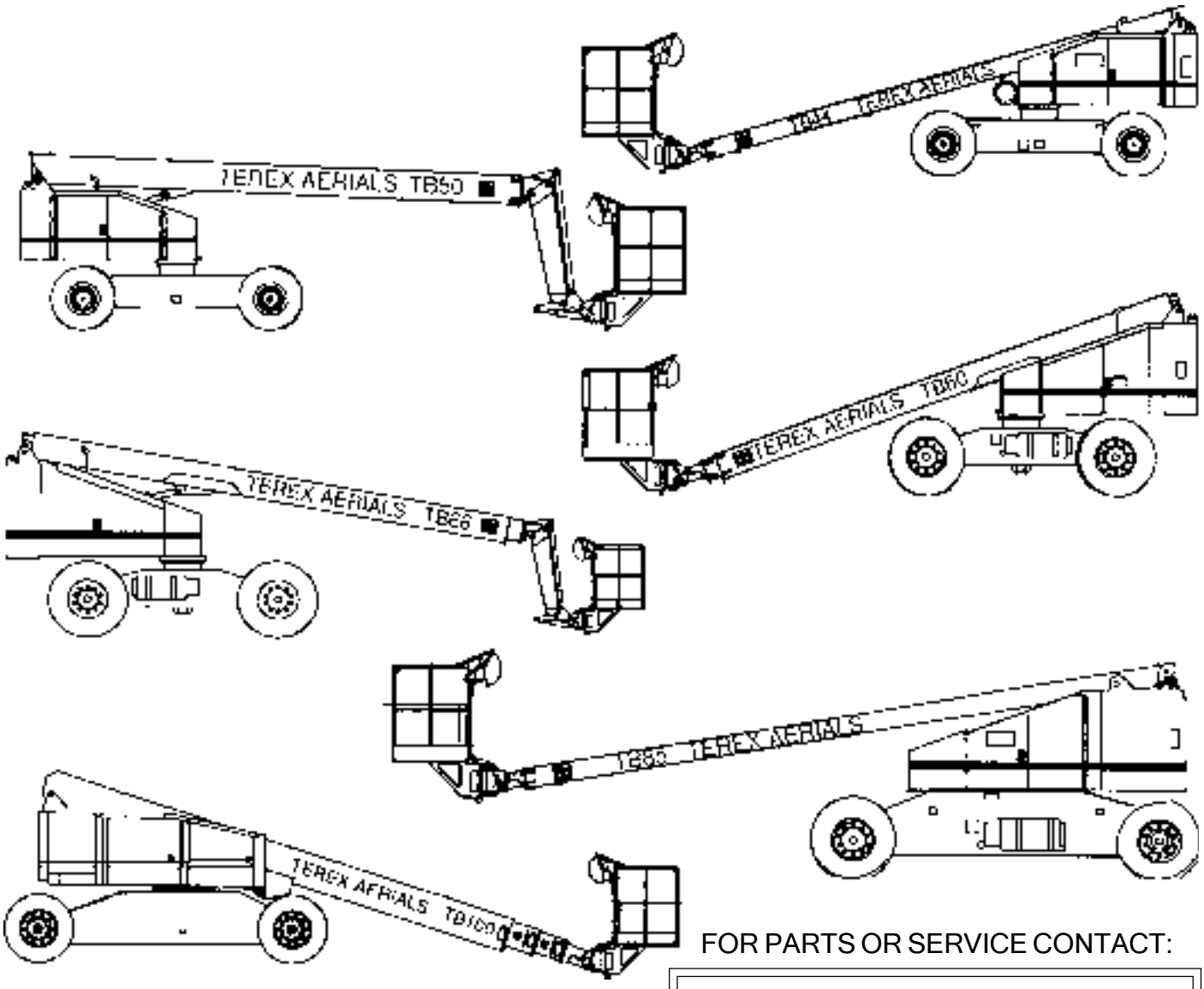
TEREX AERIALS

SERVICE MANUAL

SELF PROPELLED BOOM LIFT SERVICE MANUAL

MODELS: TB42/TB50/TB60/TB66/TB85/TB100/TB110



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Issue date Jun '01

TEREX AERIALS

SERVICE MANUAL

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IF OPERATION OF THIS MACHINE IS REQUIRED TO PERFORM SERVICE OR MAINTENANCE, THEN THE OPERATOR MUST READ AND UNDERSTAND ALL THE INSTRUCTIONS IN THE OPERATOR'S MANUAL BEFORE OPERATING THE AERIAL LIFT.

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INTRODUCTION

Owners, Users, and Operators:

Terex Aerials appreciates your choice of our machine for your application. Our number one priority is user safety which is best achieved by our joint efforts. We feel that you can make a major contribution to safety if you as the equipment owners, users and operators:

1. **Comply** with OSHA, Federal, State and Local Regulations.

2. **Read, Understand, and Follow** the instructions in this and other manuals supplied with this machine.

3. **Use Good, Safe Work Practices in** a common sense way.

4. **Only have trained operators -** directed by informed and knowledgeable supervision - running the machine.

5. **Only have qualified aerial lift mechanics** perform the service and maintenance procedures provided in the "Service and Maintenance Manual."

The information, specifications, vendor information, and illustrations in this publication are based on the information available at the time of approval for printing. Do to on-going changes and revisions by our many suppliers, it is often impossible to show all changes or variations. We reserve the right to make changes at any time without obligation.

If there is anything in this manual that is not clear or which you believe should be added, please send your comments to Customer Service Department, Terex Aerials, 106 12th Street, Waverly, Iowa 50677-9466, or call (319) 352-3920 or fax (319) 352-5727.

Thank you!

THIS SYMBOL MEANS YOUR SAFETY IS INVOLVED! READ, UNDERSTAND, AND FOLLOW ALL DANGER, WARNING, AND CAUTION DECALS ON YOUR MACHINE.

INTRODUCTION

Aerial lift longevity and low-cost performance depend on Periodic Maintenance, Trouble-shooting and proper Service and Adjustment procedures.

It is the responsibility of the owner, user, and operator to detect any unusual, sounds, odors, or other signs of abnormal performance that could indicated trouble ahead.

By detecting any problems in their early stages, you can save yourself unnecessary downtime and your employer a lot of money! Therefore, it is also your responsibility to use good judgment in detecting failures quickly and repairing them. If you don't, one failure can lead to another.

NOTE: THE SERVICE AND MAINTENANCE PROCEDURES PROVIDED IN THIS MANUAL SHOULD ONLY BE PERFORMED BY A QUALIFIED AERIAL LIFT MECHANIC.

Before attempting to make an adjustment yourself, ask yourself if you have the RIGHT TOOLS, IF you have the PROPER TEST EQUIPMENT and IF you can accurately DIAGNOSE the cause of the problem.

If you can't answer YES to all three questions, rely on your Distributor Serviceman. He has the right tools, testing equipment and service knowledge to pin-point the problem in minutes instead of the hours consumed in hit-or-miss methods. TIME IS MONEY! He will save it for you.

If you decide to attempt an adjustment yourself, follow a logical TROUBLE SHOOTING PROCEDURE. Don't simply replace parts until the trouble is found.

Once the cause of the problem or malfunction has been diagnosed, take the corrective action specified in this manual. Follow the procedures given for the specific problem. If the difficulty is not covered, consult your Terex Aerials distributor, or the Terex Aerials Customer Service Department.

SECTION 2

GENERAL INFORMATION & SPECIFICATIONS

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SECTION 2

GENERAL SERVICE INFORMATION

Keep parts in order when large components are disassembled, particularly so when it has a great number of similar parts. Loosely reassembly assemblies whenever possible to prevent small parts from being lost. Keep sub-assembly parts together, but be careful not to get right and left hand parts mixed up.

When an assembly is removed to correct only one difficulty, it is good practice to recondition the whole assembly at that time to avoid repetition to work at a later date.

Bolts and nuts should be placed into their respective holes when removing guards, cases, etc., so that the proper bolts will be on hand for reassembling.

Safety should always by the first consideration when performing maintenance or service to equipment.

Always be conscious of a component's weight. Never attempt to move a heavy part without a proper lifting device. Ensure that adequate support is provided and that objects are set in a stable position.

Any hydraulic component disassembly or reassembly must be done in a clean, enclosed environment by personnel familiar with hydraulic systems and cleanliness procedures.

SECTION 2

RECEIVING A NEW MACHINE

Before removing a new machine from the delivery vehicle:

1. Check and follow the Operation & Maintenance Manual for unloading procedure.
2. Check battery/batteries for cracks and for proper water level (if applicable).
3. Check for bent, broken or otherwise damaged functional components.
4. Check for sufficient oil levels, both hydraulic and engine (if applicable).
5. Check for fluid leaks in hydraulic or fuel delivery systems.
6. Check lug nuts for looseness.

Upon receipt of a new machine the customer must:

1. Remove all packing materials and inspect for any damage incurred during transport.
2. Complete the NEW EQUIPMENT CONDITION REPORT.
3. Complete the WARRANTY REGISTRATION.
4. If your machine is an export model, the export preservative must be removed.

EXPORT PRESERVATIVE REMOVAL

Before an export machine leaves the factory, the exterior surfaces are given a coating de signed to protect the paint from the environment encountered when shipping items overseas or for great distances. This coating can be removed using warm soapy water.

Do not use a steam cleaner to clean or wash the machine.

Do not spray water directly on any control panels or electrical compartments.

This preservative is applied to export machines only.

SECTION 2

MACHINE STORAGE

Machines being placed in storage must be adequately protected from deterioration during the period of idleness. This will ensure that they can be restored to active service with a minimum effort.

Before removing this aerial lift from service for an extended period, it should be prepared for storage as prescribed in the following paragraphs. The specific procedure to be followed depends upon the expected period of storage.

SHORT TERM STORAGE - 30 DAYS OR LESS
Short term storage requires minimal preparation.

The AERIAL LIFT should be thoroughly cleaned, lubricated in accordance with Section 3, and painted surfaces retouched where the paint has deteriorated. Exposed portions of all hydraulic cylinders should be coated with multipurpose grease. Coat unpainted metal surfaces with multipurpose grease after removing any rust accumulations.

LONG TERM STORAGE - 30 DAYS OR MORE

Long term storage requires greater preparation than short term storage and must be undertaken with greater care.

The MACHINE should be prepared as follows:

1. Perform the short term machine storage preparation, making certain that ALL points with grease fittings are liberally lubricated.

2. Drain and refill the hydraulic reservoir. Refer to Section 3 when servicing the reservoir.

3. Distribute the new hydraulic fluid to all parts of the system by operating all functions.

4. The battery charger may be left connected to the batteries and should be turned on for a full charge period once a month. In extremely cold conditions, it may be necessary to charge more frequently. After each charge cycle, the charger should be checked to insure that it has turned off. Severe overcharging and possible damage to the batteries could result if the charger remains on for prolonged periods of time.

5. If the batteries are to be removed for storage, disconnect the charger from the batteries and clean and tape the battery cables.

6. Fill the hydraulic reservoir to the top *AFTER THE MACHINE IS PARKED IN ITS STORAGE SPOT.*

7. Coat exposed cylinder rods with grease.

RESTORING AERIAL LIFT TO SERVICE

Remove the AERIAL LIFT from storage via the following procedure:

1. Remove preservative lubricants from all surfaces.

2. Check all fluid levels, adding or draining as required.

3. If the batteris have been removed for storage, then install the batteries and reconnect the battery charger.

4. Perform all maintenance and lubrication of the aerial lift in accordance with the maintenance chart on Pages 3-2 and 3-3.

SECTION 2

GENERAL CLEANING, INSPECTION AND PREPARATION FOR MAJOR COMPONENT OVERHAUL

A. Clean parts having ground and polished surfaces, such as gears, bearings and shafts with solvent-type cleaners such as emulsion cleaners, or petroleum solvents excluding gasoiline. Do not clean these parts in a hot tank solution or sodium hydroxide, orthosilicates, or phosphates. When cleaning, remember to clean and/or replace breathers if applicable.

⚠ CAUTION

Exercise extreme care to avoid skin rashes, fire hazards and inhalation of vapors when using solvent-type cleaners.

B. Rough parts such as gear case housings may be cleaned in hot solution tanks with mild alkali solutions providing these parts are not ground and polished. The parts should remain in the tank long enough to be thoroughly cleaned and heated through. This will aid and speed up the evaporation of the cleaning solution and the rinse water.

⚠ CAUTION

Exercise care to avoid skin rashes and inhalation of vapors when using alkali cleaners.

Parts cleaned in solution tanks or with alkali cleaners should be thoroughly rinsed after cleaning to remove all traces of alkali.

C. Parts should be thoroughly dried immediately after cleaning. Use soft, clean, lint-free absorbent paper towels or wiping rags free of abrasive material such as lapping compound, metal filings or contaminated oil. Bearings should never be dried by spinning with compressed air.

D. To prevent corrosion, parts that have been cleaned and dried, then inspected, should be reassembled immediately and coated with a light film of oil.

E. It is impossible to overstress the importance of careful and thorough *inspection* of component parts prior to reassembly. Thorough visual inspec tion for indications of wear or stress, and the replacement of such parts as are necessary will eliminate costly and avoidable unit failure.

1. Inspect all bearings and replace any that are worn, pitted or damaged in any way. Remove parts needing replacement with a suitable puller or in a press with sleeves. Avoid the use of drifts and hammers, as they may easily mutiliate or severely distort component parts.

2. Inspect all gears for wear or damage. Gears which are scored, pitted, ridged or worn should be replaced.

F. If repair is evident, replace all worn or damaged parts. Hex nuts with rounded corners, all lock washers, oil seals, o-rings and gaskets should all be replaced at the time of overhaul.

SECTION 2

WELDING INSTRUCTIONS

CAUTION

When doing repair welding on your aerial lift, take precaution attaching your ground to the component being repaired. This will eliminate the chance of arcing hrough a bearing, cylinder, etc., damaging the component. Paint should be removed from the surface to be used as the "ground" (earth).

CAUTION

Use necessary precaution when welding around fuel tanks, oil reservoir, batteris, tubing and pressure systems.

CAUTION

When welding close to glass, cylinder rods, or any polished surface, provide adequate protection from splatter.

CAUTION

Always disconnect the battery cables and applicable grounds before welding. If equipped with an engine,

CAUTION

Do not weld on wet surfaces since this will cause hydrogen embrittlement of the weld.

CAUTION

Always have a fire extinguisher on hand in case of fire. Adequate ventilation and dry area are neces sary. Protective clothing should be used and all persons in the welding area should have protection for their eyes.

AWS CLASS E7018 Low hydrogen rod for normal repairs on low alloy to medium carbon steel. All position welding, good penetration and crack resist ing up to 80,000 yield. Also suitable for repair of previous intershield welds.

AWS CLASS E11018G Low hydrogen rod for repair on high strength alloy steel such as T-1, 80,000 to 100,000 yield. All position welding, good penetra tion and high tensile strength up to 110,000.

NOTE: Low hydrogen rod E7018 must be used within four (4) hours upon removal from a freshly opened container or from a storage oven.

Low hydrogen rod E11018G must be used within 1/2 hour upon removal from its container or from a storage oven.

SPECIFICATIONS & RANGE DIAGRAMS

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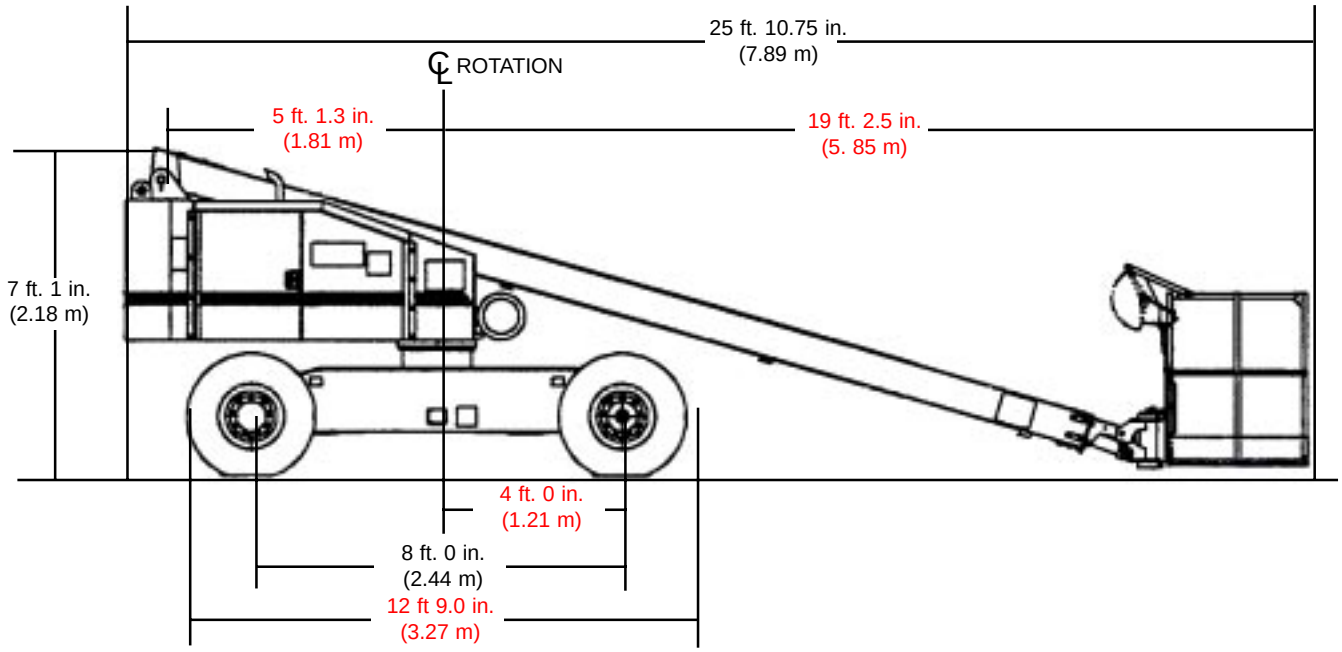
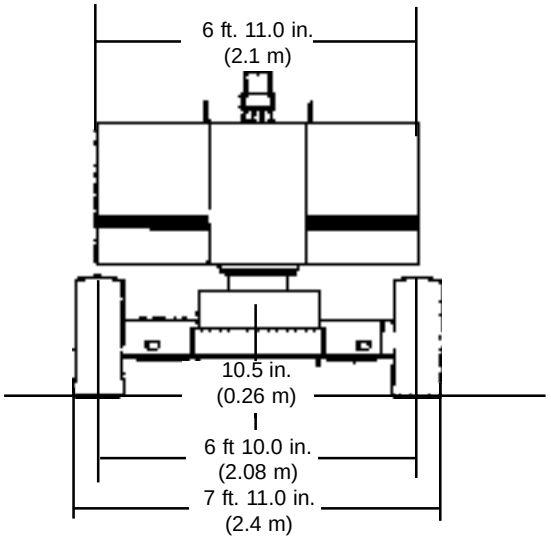
SPECIFICATIONS TB42

*Working Height (Maximum)	49 ft. 6 in. (15.09 m)
Platform Height (Maximum)	43 ft. 6 in. (13.26 m)
Stowed Height	7 ft. 1 in. (2.16 m)
Length (stowed)	25 ft. 10.75 in. (7.89 m)
Width	7 ft. 11 in. (2.41 m)
Platform - Dimensions	
[6 ft.]	72 in. x 36 in. x 44 in. (1.8 x 0.91 x 1.12 m)
[8 ft.]	96 in. x 36 in. x 44 in. (2.4 x 0.91 x 1.12 m)
Horizontal Reach	37 ft. 0 in. (11.27 m)
Boom Angle	-16^0 to $+75^0$ above horiz. plane
Platform Capacity (Maximum weight)	
[6 ft.]	650 lbs. (295 kg) Including Occuppants
[8 ft.]	600 lbs. (272 kg) Including Occuppants
Rated Number of Occupants	2 Occupants
Wheelbase	8 ft. 0 in. (2.44 m)
Wheel Track	6 ft. 10 in. (2.08 m)
Tailswing	33 in. (0.84 m)
Turret Rotation	360^0 continuous rotation
Turning Curb Radius	16 ft. 0 in. (4.9 m)
Travel Speed	0 to 3.0 m.p.h (0 to 4.83 km/h)
Power Source	
[standard]	Ford LRG-425, 62 hp (46.2 kw) [water cooled, gasoline (dual fuel optional)]
[optional]	Deutz F3L1011, 40.8 hp (30.0 kw) [air cooled, diesel]
Fuel Tank Capacity	25 gal (94.6 L)
Hydraulic System	Load sensing and pressure compensating
Max. operating pressure	2,500 psi (172 BAR)
Reservoir Capacity	38 gal (144 L)
Tires (monofilled)	12 x 16.5 8 P.R. (Mono)
Ground Clearance	10.5 in. (.26 m)
Approximate Shipping Weight	13,050 lbs. (5920 kg)
Wheel Loading	
Maximum concentrated pressure	170 psi (11.95 kg/sq-cm^2)
Wheel Load (Maximum)	7350 lbs. (3334 kg)
Wind speed rating	25 m.p.h. (40.23 km/h - 6^0 Beaufort)
Gradeability (approximate - hard surface!)	
Two wheel drive	35% (19^0)
Four wheel drive	55% (35^0)

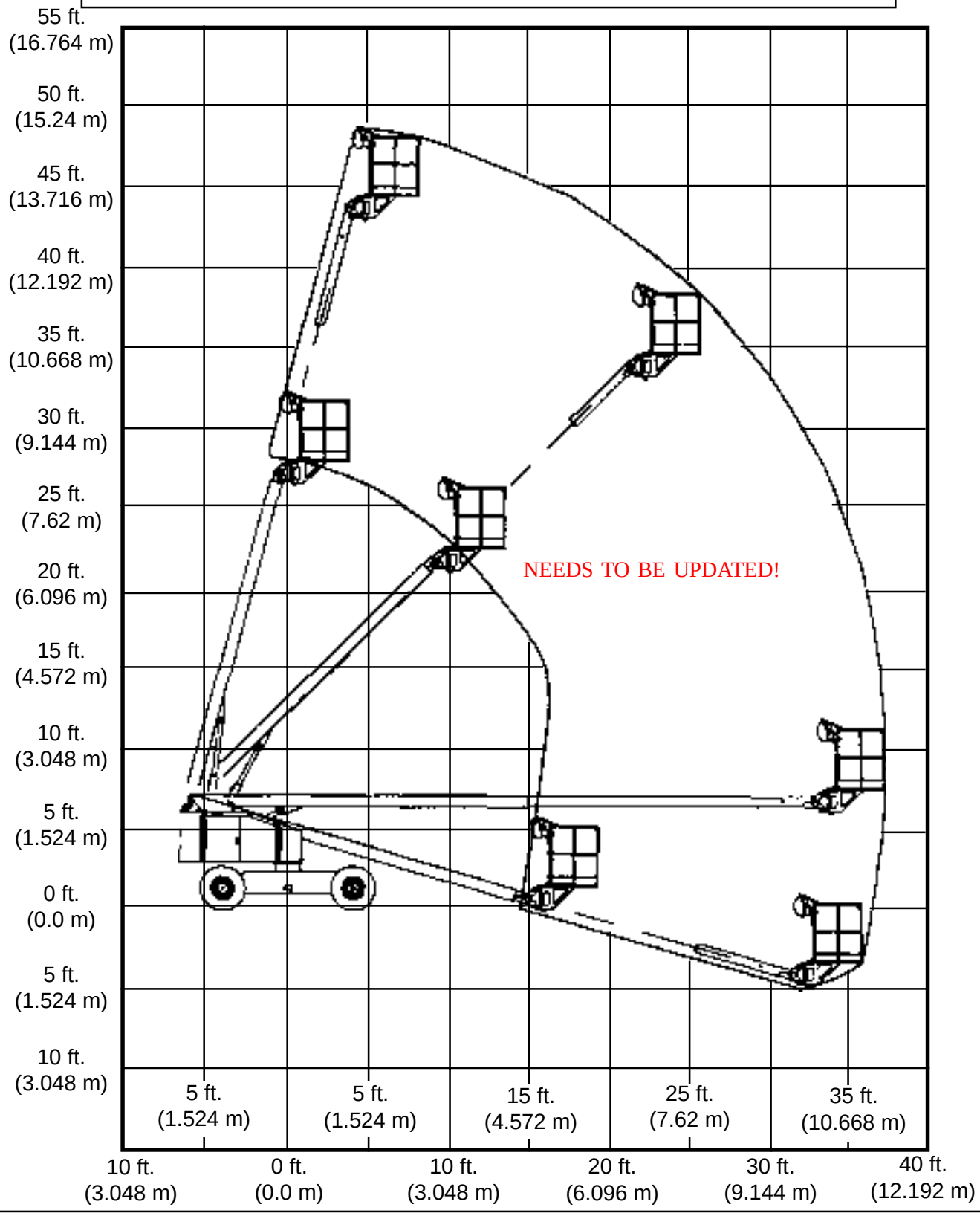
*** Clearance must be allowed for body parts for this and other work heights.**

TB42 BOOM LIFT GENERAL DIMENSIONS





TB42 BOOM LIFT RANGE DIAGRAM



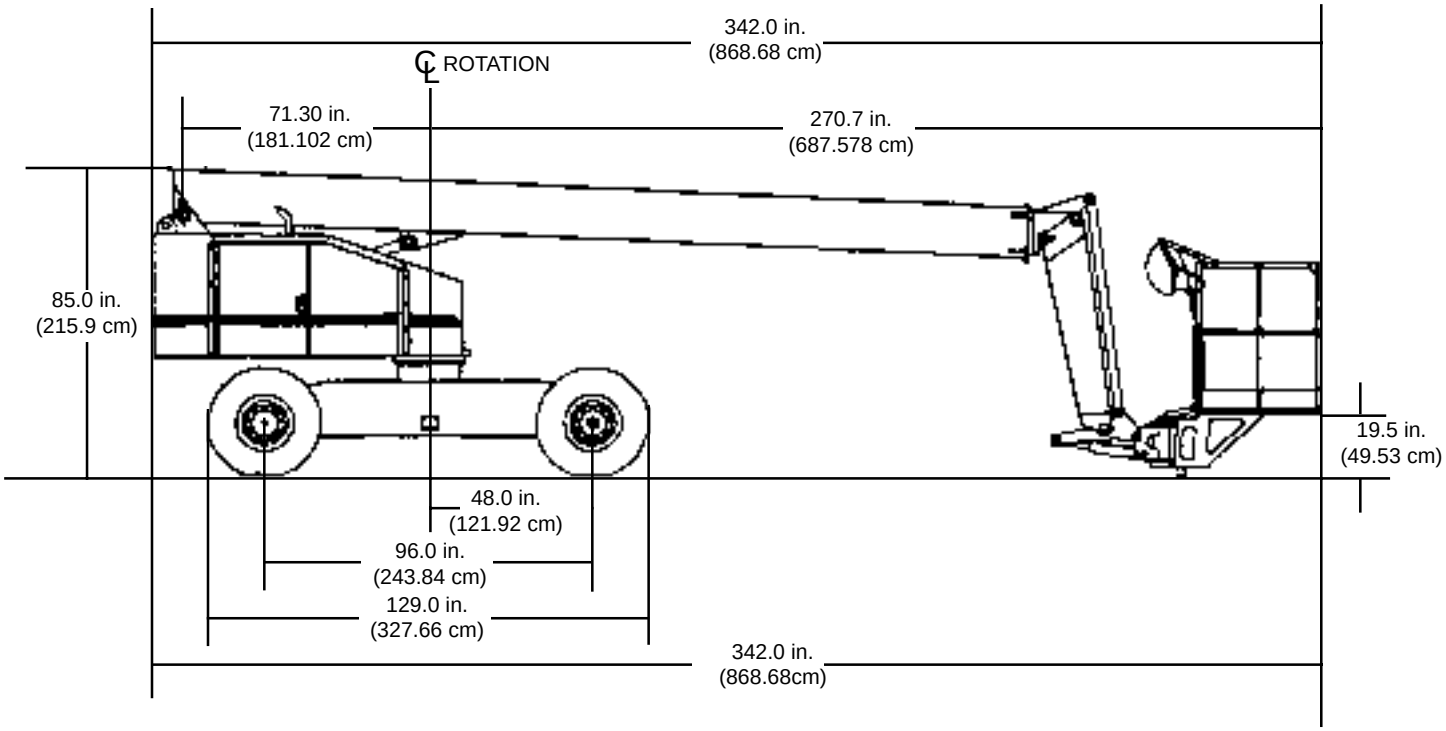
NOTES

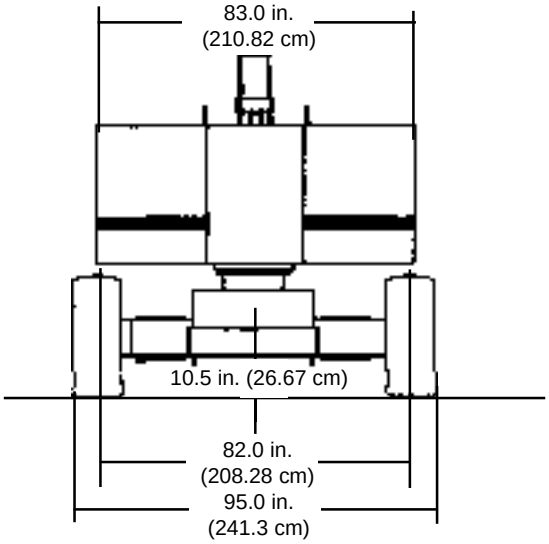
SPECIFICATIONS TB50

*Working Height (Maximum)	56 ft. 0 in. (17.07 m)
Platform Height (Maximum)	50 ft. 0 in. (15.24 m)
Stowed Height	7 ft. 1 in. (2.16 m)
Length (stowed)	28 ft. 8.5 in. (8.75 m)
Width	7 ft. 11 in. (2.41 m)
Platform - Dimensions [6 ft.]	72 in. x 36 in. x 44 in. (1.8 x 0.91 x 1.12 m)
Horizontal Reach	43 ft. 0 in. (13.11 m)
Boom Angle	
Above horizontal (+75^0)	75^0 + 15^0 articulation
Below horizontal (-16^0)	-16^0 + -8^0 articulation
Platform Capacity (Maximum weight)	500 lbs. (227 kg) Including Occupants
Rated Number of Occupants	2 Occupants
Wheelbase	8 ft. 0 in. (2.44 m)
Wheel Track	6 ft. 10 in. (2.08 m)
Tailswing	33 in. (0.84 m)
Turret Rotation	360^0 continuous rotation
Turning Curb Radius	16 ft. 0 in. (4.9 m)
Travel Speed	0 to 3.0 m.p.h (0 to 4.83 km/h)
Power Source	
[standard]	Ford LRG-425, 62 hp (46.2 kw) [water cooled, gasoline (dual fuel optional)]
[optional]	Deutz F3L1011, 40.8 hp (30.0 kw) [air cooled, diesel]
Fuel Tank Capacity	25 gal (94.6 L)
Hydraulic System	Load sensing and pressure compensating
Max. operating pressure	2,500 psi (172 BAR)
Reservoir Capacity	38 gal (144 L)
Tires (monofilled)	12 x 16.5 8 P.R. (Mono)
Ground Clearance	10.5 in. (.26 m)
Approximate Shipping Weight (Approx.)	15,900 lbs. (7212 kg)
Wheel Loading	
Maximum concentrated pressure	170 psi (11.95 kg/sq-cm^2)
Wheel Load (Maximum)	7350 lbs. (3334 kg)
Wind speed rating	25 m.p.h. (40.23 km/h - 6^0 Beaufort)
Gradeability (approximate - hard surface!)	
Two wheel drive	25% (14^0)
Four wheel drive	50% (27^0)

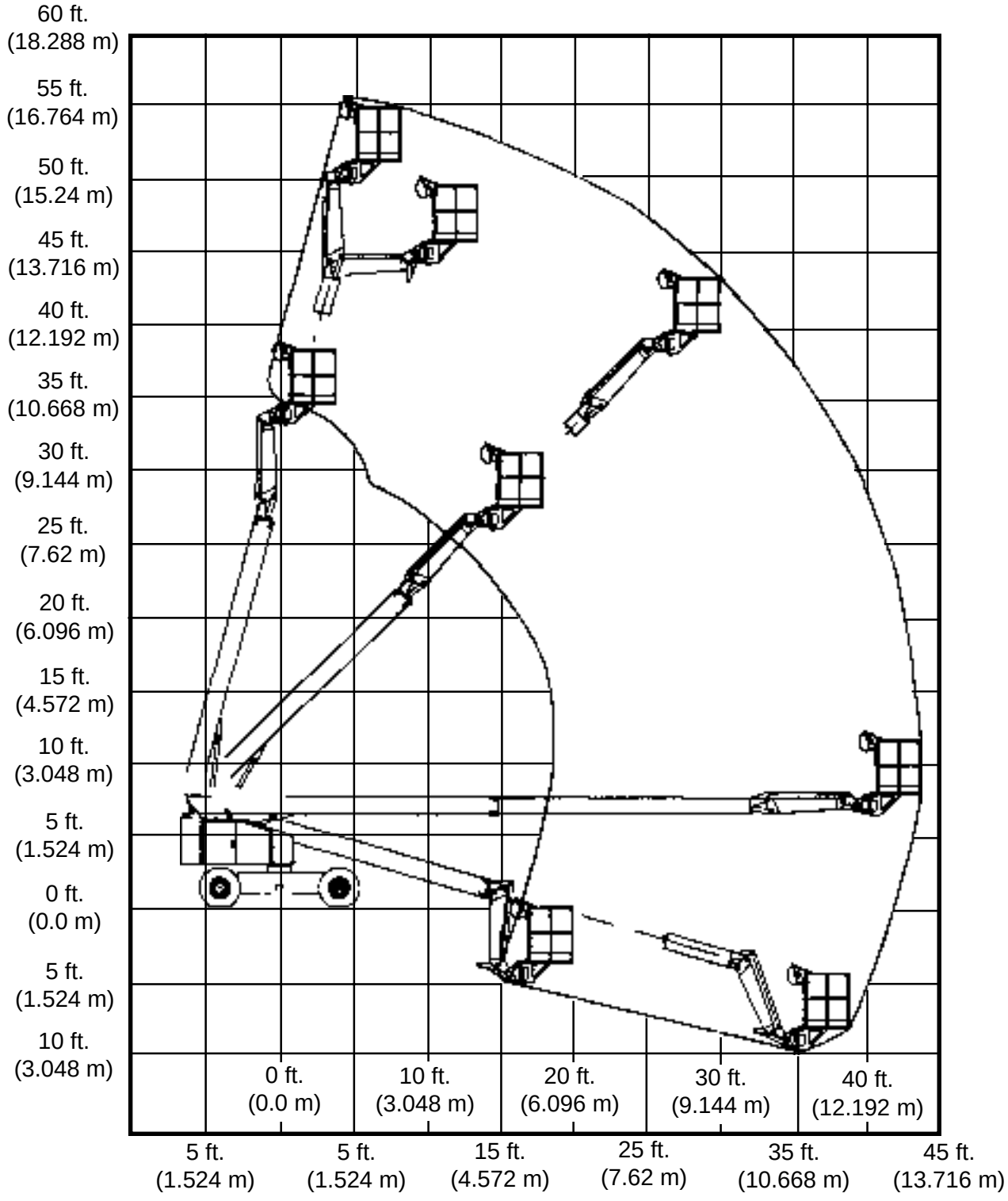
*** Clearance must be allowed for body parts for this and other work heights.**

TB50 BOOM LIFT GENERAL DIMENSIONS





TB50 BOOM LIFT RANGE DIAGRAM



NOTES

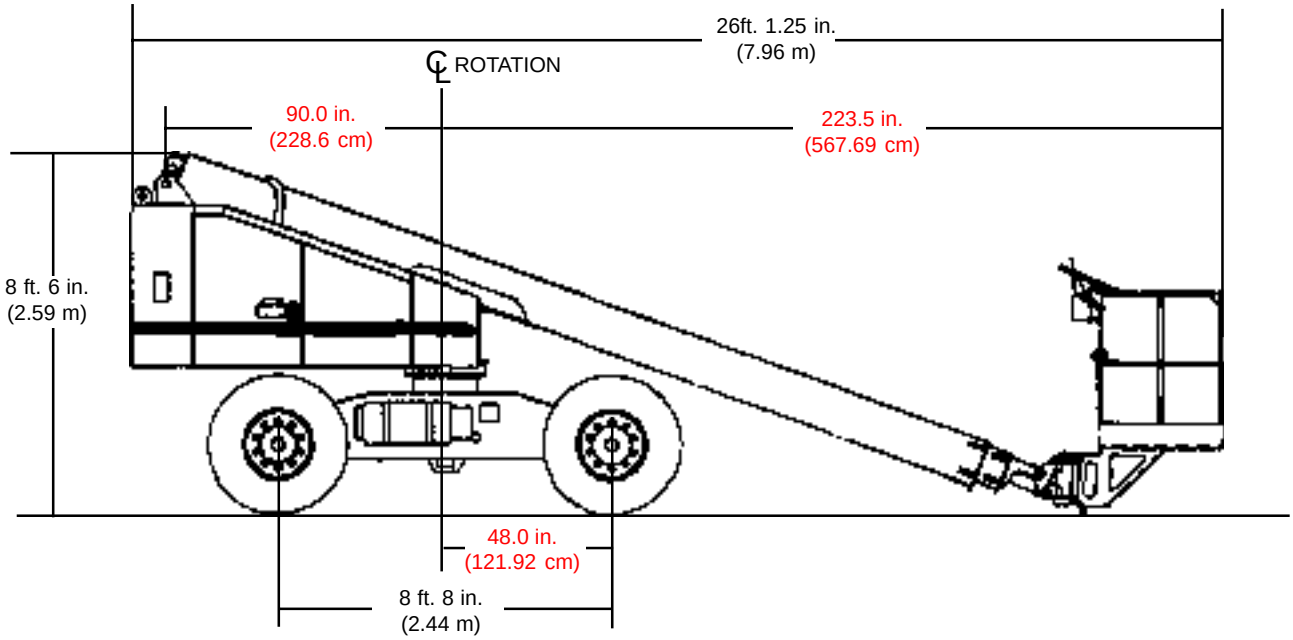
SPECIFICATIONS TB60

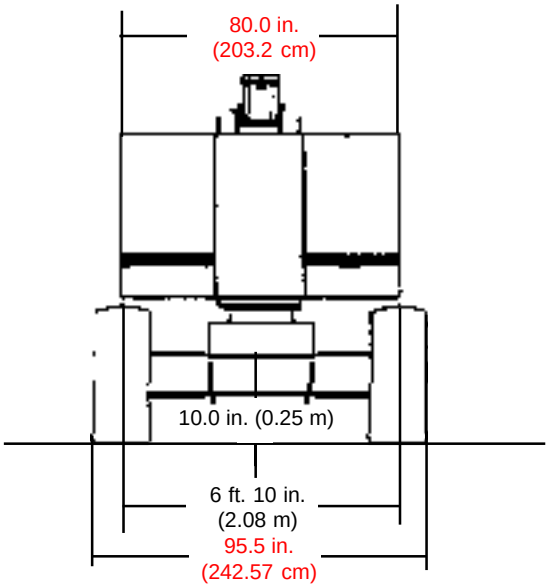
*Working Height (Maximum)	66 ft. 0 in. (20.12 m)
Platform Height (Maximum)	60 ft. 0 in. (18.29 m)
Stowed Height	8 ft. 6 in. (2.59 m)
Length (stowed)	26 ft. 1.25 in. (7.96 m)
Width	7 ft. 11 in. (2.41 m)
Platform - Dimensions	
[6 ft.]	72 in. x 36 in. x 44 in. (1.8 x 0.91 x 1.12 m)
[8 ft.]	96 in. x 36 in. x 44 in. (2.4 x 0.91 x 1.12 m)
Horizontal Reach	51 ft. 4.625 in. (15.66 m)
Boom Angle	-20^0 to $+75^0$ above horiz. plane
Platform Capacity (Maximum weight)	
[6 ft.]	650 lbs. (295 kg) Including Occuppants
[8 ft.]	600 lbs. (272 kg) Including Occuppants
Rated Number of Occupants	2 Occupants
Wheelbase	8 ft. 0 in. (2.44 m)
Wheel Track	6 ft. 10 in. (2.08 m)
Tailswing	42 in. (1.07 m)
Turret Rotation	360^0 continuous rotation
Turning Curb Radius	16 ft. 9 in. (5.1 m)
Travel Speed	0 to 3.0 m.p.h (0 to 4.83 km/h)
Power Source	
[standard]	Ford LRG-425, 62 hp (46.2 kw) [water cooled, gasoline (dual fuel optional)]
[optional]	Cummins 4B3.7 L, 76 hp (56.7 kw) [water cooled, diesel]
[optional]	Deutz F3L1011, 40.8 hp (30.0 kw) [air cooled, diesel]
Fuel Tank Capacity	40 gal (151 L)
Hydraulic System	Load sensing and pressure compensating
Max. operating pressure	2,500 psi (172 BAR)
Reservoir Capacity	52 gal (197 L)
Tires (monofilled)	15 x 19.5 13 P.R. (Loader Lug)
Ground Clearance	10.0 in. (0.25 m)
Approximate Shipping Weight	23,000 lbs. (10443 kg)
Wheel Loading	
Maximum concentrated pressure	170 psi (11.95 kg/sq-cm^2)
Wheel Load (Maximum)	7350 lbs. (3334 kg)
Wind speed rating	25 m.p.h. (40.23 km/h - 6^0 Beaufort)
Gradeability (approximate - hard surface!)	
Two wheel drive	30% (16^0)
Four wheel drive	50% (27^0)

*** Clearance must be allowed for body parts for this and other work heights.**

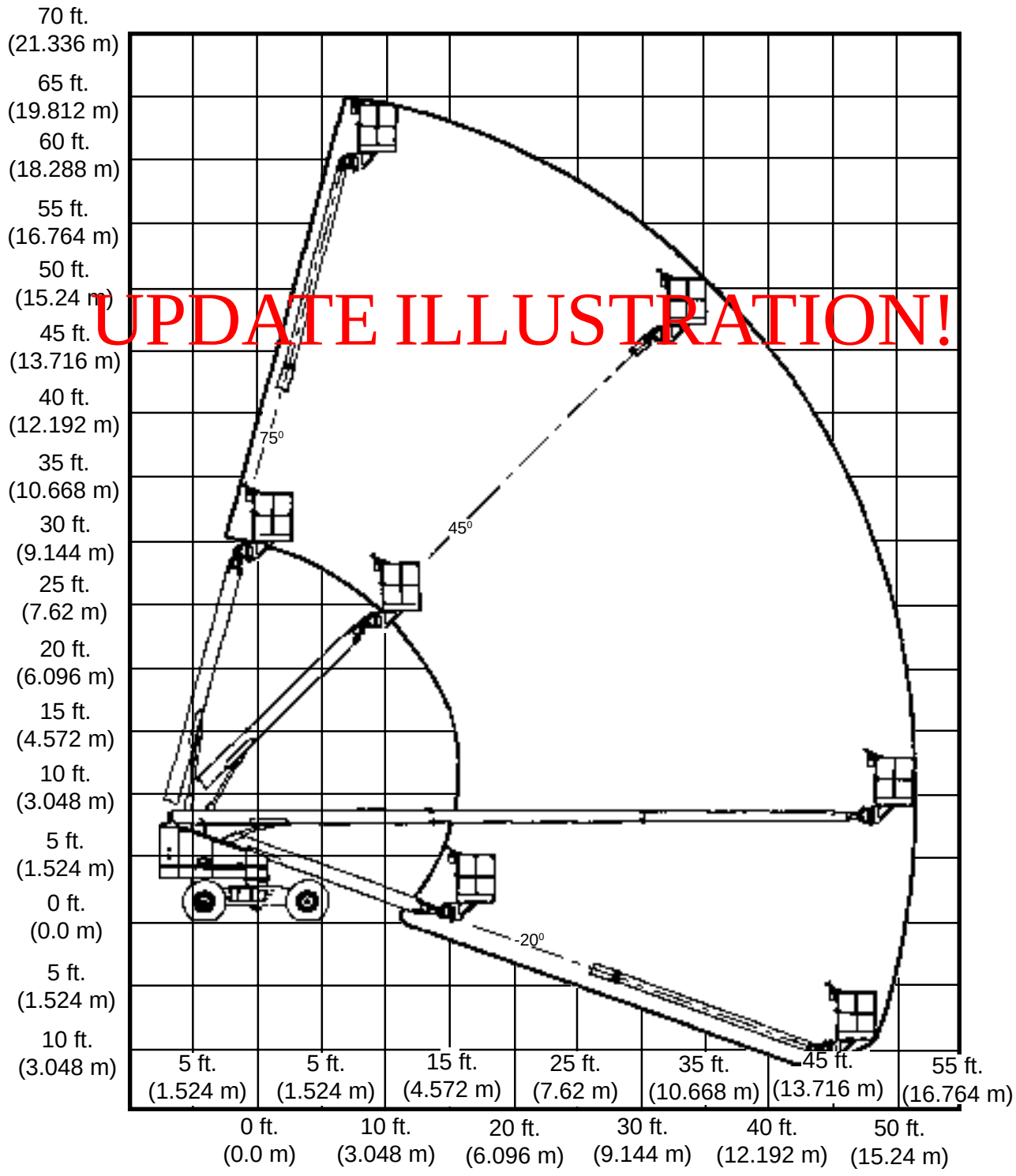
TB60 BOOM LIFT GENERAL DIMENSIONS

UPDATE ILLUSTRATION!





TB60 BOOM LIFT RANGE DIAGRAM



NOTES

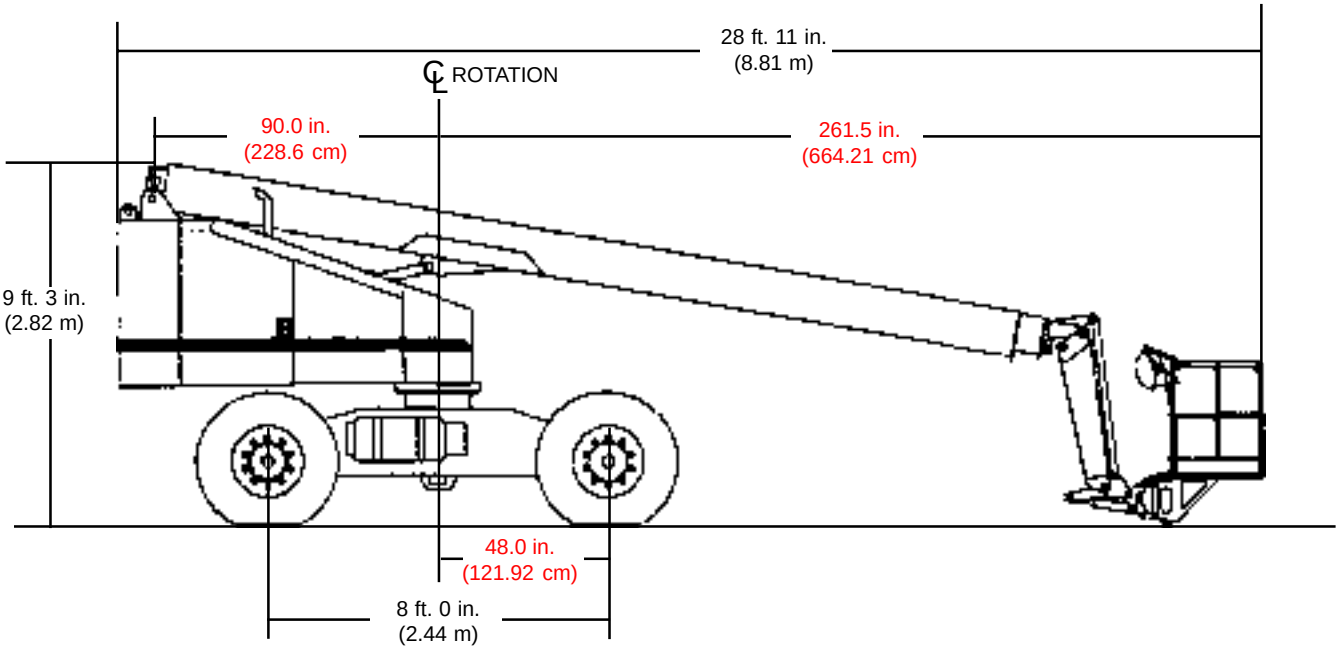
SPECIFICATIONS TB66

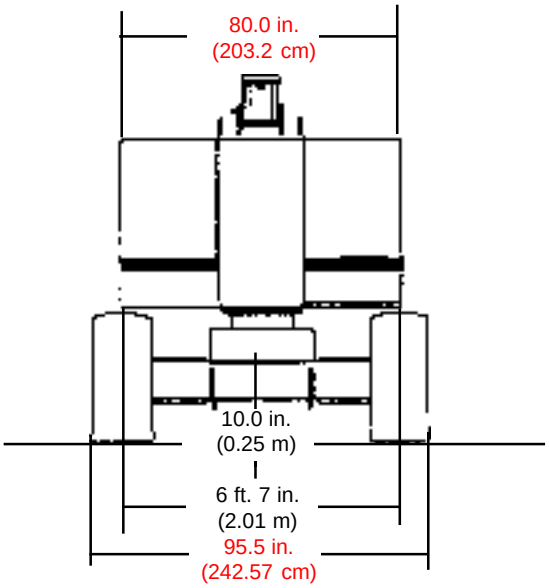
*Working Height (Maximum)	72 ft. 0 in. (21.95 m)
Platform Height (Maximum)	66 ft. 0 in. (20.12 m)
Stowed Height	9 ft. 3 in. (2.82 m)
Length (stowed)	28 ft. 11 in. (8.81 m)
Width	7 ft. 11 in. (2.41 m)
Platform - Dimensions	
[6 ft.]	72 in. x 36 in. x 44 in. (1.8 x 0.91 x 1.12 m)
Horizontal Reach	57 ft. 4.625 in. (17.49 m)
Boom Angle	
Above horizontal (+75^0)	75^0 + 15^0 articulation
Below horizontal (-20^0)	-20^0 + 8^0 articulation
Platform Capacity (Maximum weight)	
[6 ft.]	500 lbs. (227 kg) Including Occuppants
Rated Number of Occupants	2 Occupants
Wheelbase	8 ft. 0 in. (2.44 m)
Wheel Track	6 ft. 7 in. (2.01 m)
Tailswing	42 in. (1.07 m)
Turret Rotation	360^0 continuous rotation
Turning Curb Radius	16 ft. 9 in. (5.1 m)
Travel Speed	0 to 3.0 m.p.h (0 to 4.83 km/h)
Power Source	
[standard]	Ford LRG-425, 62 hp (46.2 kw) [water cooled, gasoline (dual fuel optional)]
[optional]	Cummins 4B3.7 L, 76 hp (56.7 kw) [water cooled, diesel]
[optional]	Deutz F3L1011, 40.8 hp (30.0 kw) [air cooled, diesel]
Fuel Tank Capacity	40 gal (151 L)
Hydraulic System	Load sensing and pressure compensating
Max. operating pressure	2,500 psi (172 BAR)
Reservoir Capacity	52 gal (197 L)
Tires (monofilled)	15 x 19.5 13 P.R. (Loader Lug)
Ground Clearance	10.0 in. (0.25 m)
Approximate Shipping Weight	25,000 lbs. (11340 kg)
Wheel Loading	
Maximum concentrated pressure	170 psi (11.95 kg/sq-cm^2)
Wheel Load (Maximum)	7350 lbs. (3334 kg)
Wind speed rating	25 m.p.h. (40.23 km/h - 6^0 Beaufort)
Gradeability (approximate - hard surface!)	
Two wheel drive	25% (14^0)
Four wheel drive	50% (27^0)

*** Clearance must be allowed for body parts for this and other work heights.**

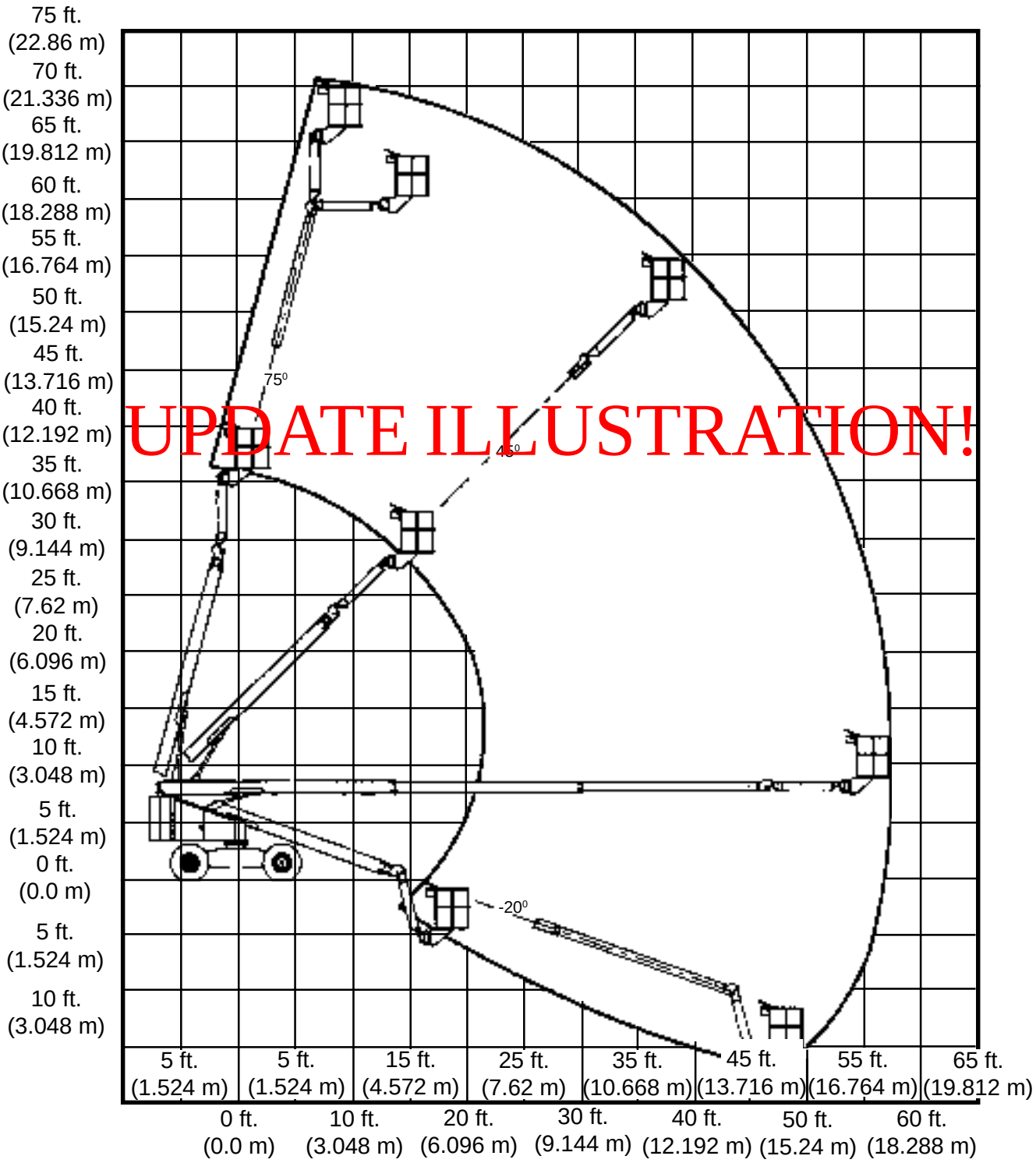
TB66 BOOM LIFT GENERAL DIMENSIONS

UPDATE ILLUSTRATION!





TB66 BOOM LIFT RANGE DIAGRAM



NOTES

TEREX AERIALS

SERVICE MANUAL

SECTION 3

DESCRIPTION	PAGE NO.
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INTRODUCTION

INTRODUCTION

In addition to the "Before Operation Checks" described in Section 5, a regular program of periodic preventive maintenance is absolutely essential to prolonging the life of the aerial lift, maximizing efficient service and minimizing downtime. This section details a series of checks and procedures which are performed at daily, weekly, monthly and semiannual intervals.

Even if the operator is not directly responsible for maintenance of the aerial lift, he should perform daily, all of the inspections listed in the "Before Operation Check", in section 5 of the "Operator's Manual".

NOTE: Report and repair all deficiencies noted during the "Before Operation Check". The operator should be assured that the aerial lift has been properly maintained and inspected before operating it.

MAINTENANCE SCHEDULE

The maintenance checks prescribed for longer intervals include those required for the shorter intervals. Thus, the weekly check includes all items in the daily check, the monthly check includes all items in the weekly and daily checks, and so on through the semiannual check, which includes the quarterly, monthly, weekly and daily checks.

The maintenance schedule provided serves as a guide to assure that the minimum basic preventive maintenance requirements will be met under average operating conditions. Conditions which impose greater wear, loads or strain on the aerial lift may dictate reducing the interval between these checks. Before altering the recommended maintenance schedule, reevaluate the aerial lift's operation and review the owner's inspection records. Consider all factors involved and develop a revised schedule adequate to meet routine maintenance requirements.

Refer to the engine manufacturer's manual for engine maintenance requirements. Should any discrepancy occur relative to the maintenance schedule provided in this manual and those provided by the engine manufacturer's recommendations take precedence over those in this manual.

INSPECTION RECORD

Periodic maintenance and inspection of the aerial lift is the responsibility of the owner. The "Aerial Lift Inspection Report" can be used for recording the date of each inspection, person(s) performing the inspection, any deficiencies found, and corrective action.

This record also serves as a tool toward detecting problem areas and reanalyzing maintenance requirements.

Return To: Terex Aerials Inc.
10600 W. Brown Deer Rd.
Milwaukee, WI 53224-1520

AERIAL LIFT INSPECTION REPORT

Pre-Delivery o Delivery o 30 Day Inspection o Yearly Inspection o

Machine: Scissor Lift o Boom Lift o Aticulated Boom o

Demo o Rental o Owned o

Distributor _____ Engine S/N _____

Address _____ Model _____ Serial Number _____

Customer _____ Hour Meter _____

Machine Location _____ Date Delivered _____

Scissor Lift - Inspection	OK	Not OK	N/A
1. Controls	o	o	o
2. Decals	o	o	o
3. Operator's Manual in Platform	o	o	o
4. Platform Gate	o	o	o
5. Main Platform/Deck	o	o	o
6. Extendable Platform/Deck	o	o	o
7. Collars on Scissor Arm Pivot Pins	o	o	o
8. Scissor Arms & Bushings	o	o	o
9. Lift Cylinder and Pins	o	o	o
10. Wear (Slide) Pads	o	o	o
11. Wheels & Tires	o	o	o
12. Wheel Lug Nuts	o	o	o
13. Wheel Bearings	o	o	o
14. Steering Brackets	o	o	o
15. Steering Cylinder and Pins	o	o	o
16. Drive Motors	o	o	o
17. Battery Tops, Terminals and Cables	o	o	o
18. Batteries & Charging System	o	o	o
19. Electrical Wiring	o	o	o
20. Proximity Switches	o	o	o
21. Hydraulic Valve	o	o	o
22. Hydraulic Pump & Motor	o	o	o
23. Hydraulic Reservoir Fluid	o	o	o
24. Hydraulic Fluid Return Filter	o	o	o
25. Hydraulic Hoses	o	o	o
26. Hydraulic Fluid Inlet Strainer	o	o	o
27. Fuel Filter	o	o	o
28. Engine Oil	o	o	o
29. Fuel Tank	o	o	o
30. Engine	o	o	o

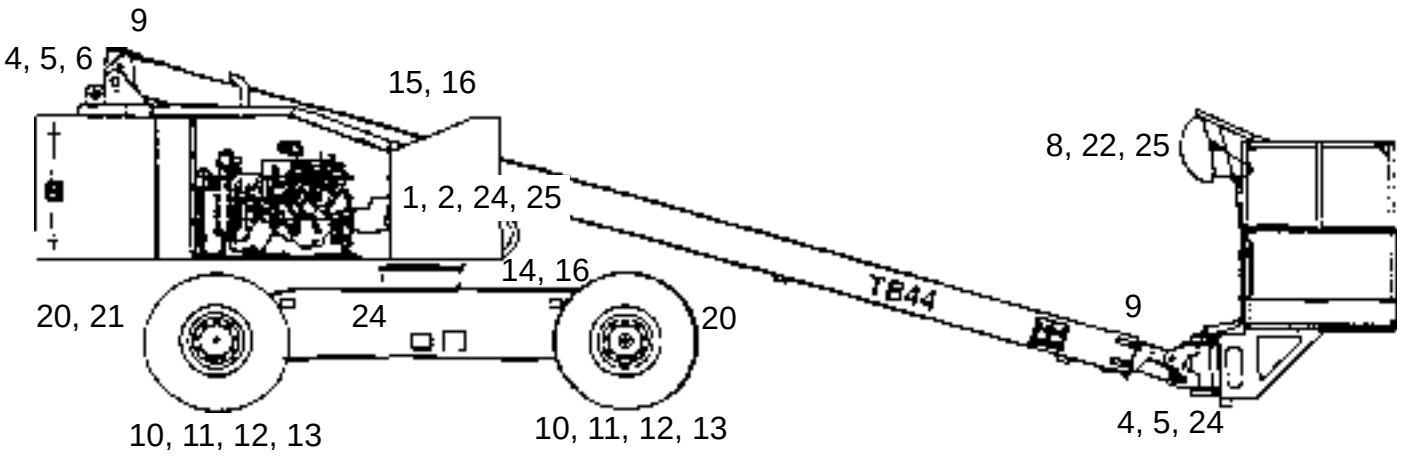
Boom/Articulated Boom- Inspection	OK	Not OK	N/A
1. Platform Gate Latch	o	o	o
2. Platform Gate & Guard Rails	o	o	o
3. Platform Floor & Toe Plate	o	o	o
4. Boom Pivot Pin	o	o	o
5. Air Filter	o	o	o
6. Engine Oil	o	o	o
7. Torque Hub, Drive Motor/Brake	o	o	o
8 Torque Ring - Gear Bolts	o	o	o
9. Boom Assembly	o	o	o
10. Platform Rotator	o	o	o
11. Tie Rod Pin	o	o	o
12. Steering Yoke King Pins	o	o	o
13. Steering Cylinder	o	o	o
14. Fuel Tank	o	o	o
15. Return Line Filter	o	o	o
16. High Pressure Filter	o	o	o
17. Hydraulic Reservoir Fluid	o	o	o
18. Hydraulic Pump	o	o	o
19. Hydraulic Valve	o	o	o
20. Wheel Lug Nuts	o	o	o
21. Boom Cable Equalizer Brackets	o	o	o
22. Extend and Retract Cables	o	o	o
23. Proximity Switches	o	o	o
24. Boom/ Riser Lift Cylinder Pins	o	o	o
25. Boom/ Riser Lift Cylinder	o	o	o
26. Rotation Gear Box	o	o	o
27. Power Track (Hose Track)	o	o	o
28. Tires	o	o	o
29. Decals	o	o	o
30. Electric Wiring	o	o	o
31. Hydraulic Hoses	o	o	o
32. Wear (Slide) Pads	o	o	o
33. Batteries	o	o	o
34. Battery Tops, Terminals and Cables	o	o	o
35. Operator's Manual in Platform	o	o	o

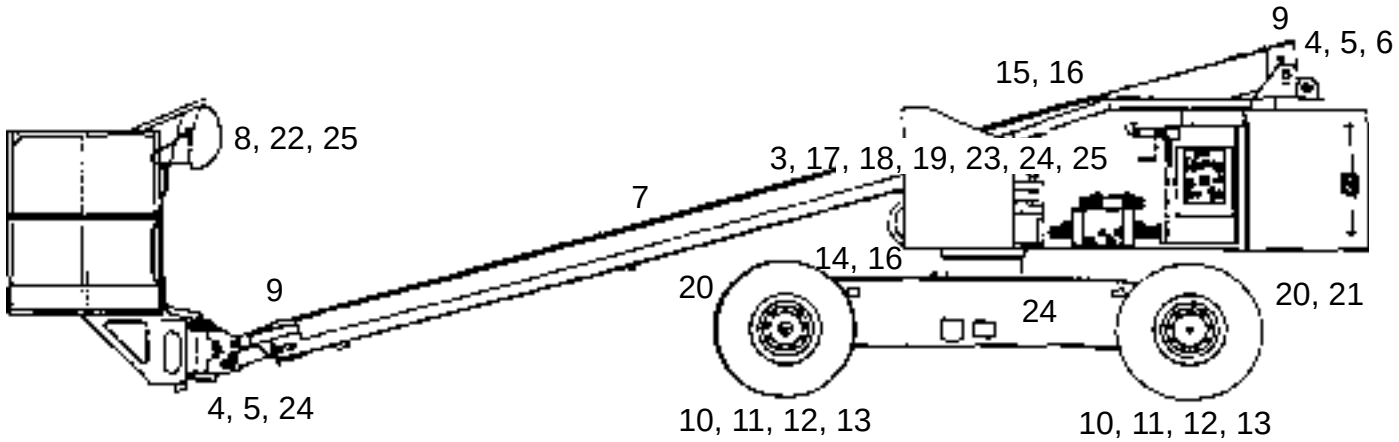
Inspected by: _____ Title: _____ Date: _____

Explain any deficiencies found, corrective action taken and identification of the person(s) performing the repair on the reverse side.

MAINTENANCE SCHEDULE

(4 WHEEL DRIVE TB44 SHOWN, INSPECTION CRITERION IS TYPICAL FOR ALL MODELS)





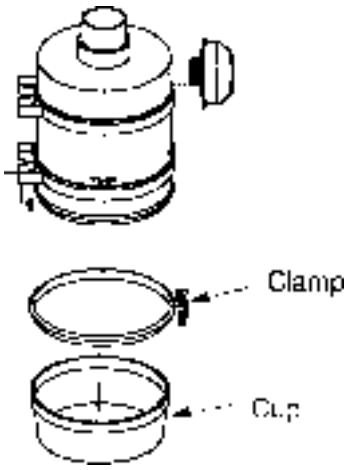
MAINTENANCE SCHEDULE

ITEM #	DESCRIPTION	SERVICE/FUNCTION - FREQUENCY
1	BATTERY	CHECK-DAILY (ADD ELECTROLYTE IF NECESSARY!)
2	ENGINE	REFER TO MANUFACTURER'S INSTRUCTIONS
3	HYDRAULIC FLUID	CHECK-DAILY (add only Dexron III or equivalent)
4	PIVOT BUSHINGS	LUBRICATE-MONTHLY/100 HOURS (MOBILCOTE TYPE - S)
5	PIVOT PIN RETAINERS	CHECK DAILY (SECURE SCREWS W/LOC-TITE 242, REFER TO TORQUE TABLE)
6	BOOM OPERATING CABLES	CHECK-DAILY (RE-TORQUE @ 100 HRS. OR EVERY 3 MOS., REFER TO TORQUE PROCEDURE)
7	POWER TRACK ASSEMBLY	CHECK-DAILY
8	PLATFORM	CHECK-DAILY
9	BOOM WEAR PADS	CHECK-MONTHLY/100 HRS. ("DRY" LUBRICANTS ONLY, NO GREASE!)
10	TIRES & WHEELS	CHECK-DAILY
11	WHEEL BEARINGS	LUBRICATE-ANUALLY (MOBILCOTE TYPE - S)
12	STEERING SPINDLES	LUBRICATE-MONTHLY/100 HOURS
13	WHEEL NUTS	CHECK-DAILY (RE-TORQUE @ 40 HRS. & THEN 6 EVERY MOS.)
14	ROTATION/SLEW BEARING	LUBRICATE-MONTHLY/100 HOURS (MULTI-PURPOSE GREASE EP-2, APPLY WHILE ROTATING @ 15^0 INCREMENTS)
15	ROTATION GEAR BOX	CHECK-100 OPERATING HOURS/QUARTERLY
16	ROTATION BEARING BOLTS	CHECK DAILY (SECURE SCREWS W/LOC-TITE 242, REFER TO BOLT TORQUE PROCEDURE)
17	INLET STRAINER	INSPECT-ANNUALY
18	RETURN FILTER	REPLACE-100 OPERATING HOURS/QUARTERLY
19	VALVE ASSEMBLY	CHECK-DAILY
20	DRIVE MOTOR & BRAKE	CHECK-DAILY (SECURE SCREWS W/LOC-TITE 242, REFER TO TORQUE TABLE)
21	STEERING CYLINDER	CHECK-DAILY
22	AERIAL CONTROLS	CHECK-DAILY
23	GROUND CONTROLS	CHECK-DAILY
24	HYDRAULIC INSTALATION	CHECK-DAILY
25	ELECTRICAL WIRING	CHECK-DAILY
26	DAILY INSPECTION	REFER TO APPLICABLE OPERATORS MANUAL

MAINTENANCE PROCEDURES

ENGINE

Air Cleaner

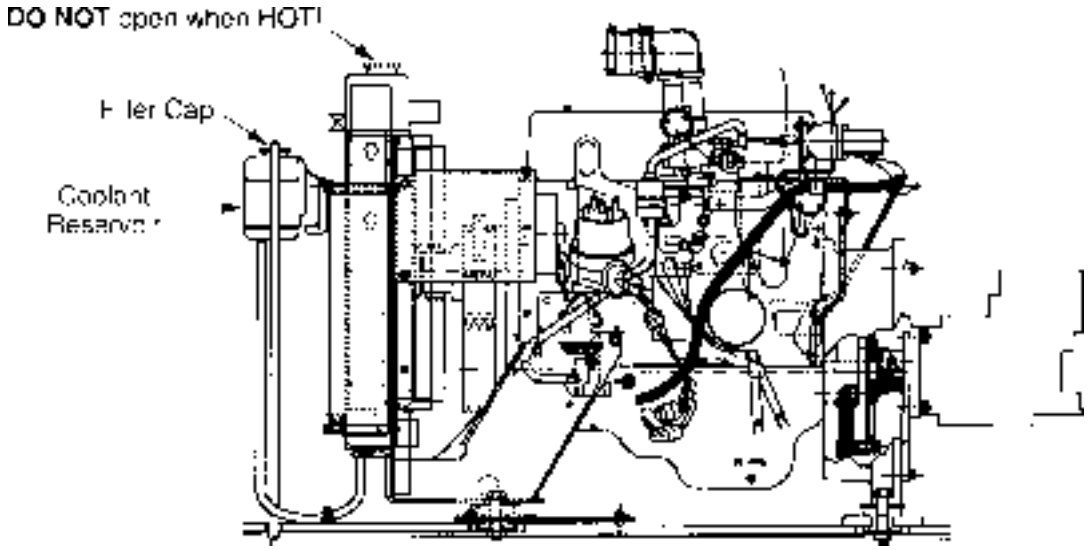


The air cleaner should be checked and cleaned on a weekly basis. To clean the air cleaner:

- Loosen the clamp securing the cup to the air cleaner.
- Remove the cup and clean out any dirt or foreign matter in the cup.
- Reinstall the cup and tighten the clamp.

Coolant Level

The coolant level must be checked daily. The coolant level is checked at the coolant reservoir. Ensure the coolant level is between the Full and Low marks on the coolant reservoir while the engine is cool. If the coolant level is near or below the Low mark, add an equal amounts of antifreeze and water until the level is at the Full mark. Do not add alcohol or methanol antifreeze. Refer to the engine manufacturer's manual for additional information. **CAUTION:** Do not open hot radiator! Allow radiator to cool if engine has been operated recently.



MAINTENANCE PROCEDURES

ENGINE & HYDRAULIC OIL

Hydraulic & Engine Oil

Various hydraulic fluid manufacturers use different additives which may cause problems in a hydraulic system when mixed together. This situation is rare but can cause sludge, which can plug filters, or acid which can etch machined surfaces in hydraulic components or deteriorate seals. Any of the above conditions can result in a hydraulic component warranty being voided. If, knowing all this, you still choose to add fluid different from that initially supplied (**"RED"** fluid = "NORTRAN Automatic Transmission Fluid" [equivalent DEXRON II], **"BLUE"** fluid = TALAMAR EXTREME [equivalent Mobil DTE 13M, Shell TELLUS T 32, Texaco RANDO OIL HD Z-36 PREMIUM HVI, Exxon UNIVIS N32]), stay with a single brand as this will minimize the likelihood of problems occurring. Then at the first complete hydraulic fluid change, switch to the brand you prefer to use.

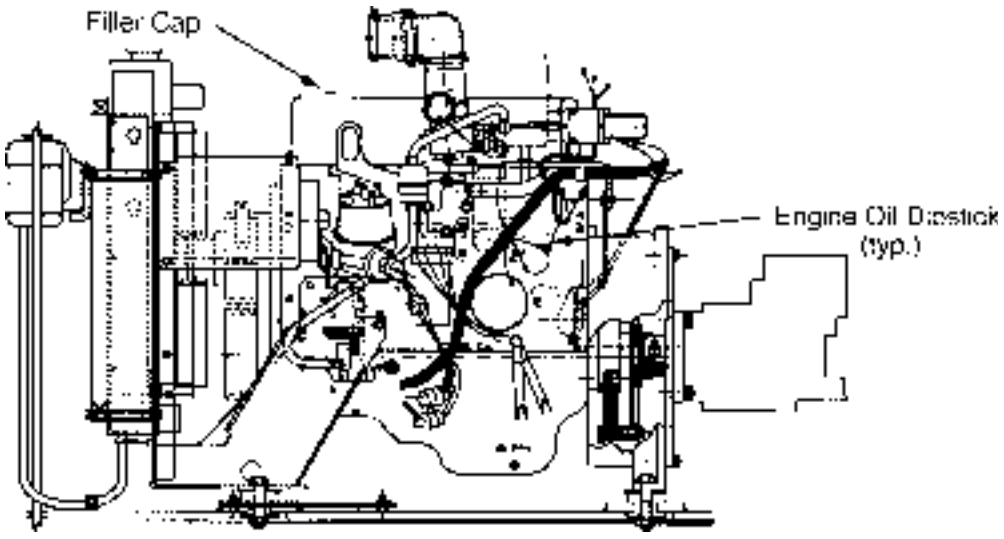
If engine oil needs to be added, the aerial lift owner must be contacted to find out what brand and viscosity of oil is being used. Use the same brand and viscosity of oil that is presently being used in the aerial lift when adding engine oil. The aerial lift owner should refer to the engine manufacturer's manual to select the proper oil to use.

Hydraulic Oil

Check the hydraulic fluid level on a daily basis. The oil level must be between the "HIGH" and "LOW" marks in the sight glass of the hydraulic tank. Add fluid as needed through the filler neck on top of the hydraulic tank. The hydraulic system was filled at the factory with NORTRAN Automatic Transmission Fluid (equivalent DEXRON II). Any oil used in this aerial lift's hydraulic system must meet the specifications of these two types of fluids.

ENGINE OIL

Check the engine oil level on a daily basis. The oil level must be within the "SAFE" level on the engine oil dipstick. Add oil as needed in the filler cap on top of the engine. Refer to the engine manufacturer's manual for the recommended type oil.



MAINTENANCE PROCEDURES

HYDRAULIC SYSTEM

HYDRAULIC RESERVOIR CHECK & FILL

Check the hydraulic oil level on a daily basis. The oil level must be between the "HIGH" and "LOW" marks on the sight glass on the hydraulic tank. Add oil as needed in the filler cap on top of the hydraulic tank. Add oil as needed in the filler cap on top of the hydraulic tank. Refer to the decal on the hydraulic reservoir for the type of hydraulic fluid used. **DO NOT MIX FLUIDS!** Any oil added in this aerial lift's hydraulic system must meet the specifications of the existing fluid.

HYDRAULIC SYSTEM RETURN LINE FILTER

The hydraulic system return filter provided on a new aerial lift upon delivery is a 3 micron filter intended for use only during the initial "break-in" cycle and MUST be replaced within a minimum of 25 hours!

The hydraulic system return line filter should be changed at minimum every 100 hours or quarterly. Increasing the frequency to a period less than the minimum interval will greatly enhance hydraulic system cleanliness. To ensure cleanliness during the "break-in period", it is recommended that the hydraulic return filter be changed at a minimum interval of 50 hours for the first 150 to 200 hours of operation.

HYDRAULIC FILTER CHANGING

Open the "pet-cock" (bleed screw) on top of the filter head, this will vent negative pressure in the return line to atmosphere and minimize spillage. Apply a thin film of clean hydraulic fluid to the seal of the new filter. Screw the filter onto the filter head by hand until it can no longer be turned. Wipe the area clean and **close the pet-cock valve!** Start the engine, operate a function and check for leaks. Tighten the filter with the aid of a filter wrench only if any leaks appear. DO NOT OVERTIGHTEN!

HYDRAULIC SYSTEM BLEEDING

The hydraulic system is self-bleeding (with the exception of the hydraulic pump, refer to the manufacturers instructions on correct installation). After the hydraulic system has been drained, such as during the replacement of a component, operate the affected function three complete cycles. Recheck the oil level and fill as required.

HYDRAULIC CYLINDER INSPECTION

Wash the cylinder bore and all the components with solvent and make the following inspections:

CYLINDER BORE - For signs of scoring and deep scratches. In the event of any defects, reassemble the entire cylinder and contact your distributor.

CYLINDER SHAFT - For dents, deep scratches, or damaged chrome plating. File any sharp edges on ends of shaft to protect the seals upon reassemble. Always protect the shaft finish when clamping in a vice or when welding against weld splatter.

PISTON RINGS - For cracks or other damage. Particularly check the interlocking ends that they are not missing or broken.

PISTON SEALS - For signs of severe damage. Do not remove unless replacemnt is necessary.

PISTON & HEAD GLAND - It is not normally necesary to replace the piston, piston rings, or head gland.

MAINTENANCE PROCEDURES

TORQUE HUB

1. Type - EP 90

   For normal application, use EP 90. For applications where the lubricant must met special requirements, the manufacturer of the lubricant should be able to recommend a suitable substitute.

2. Oil Temperature

   Continuous - 160 F
   Intermittent - 200 F

3. Oil Change

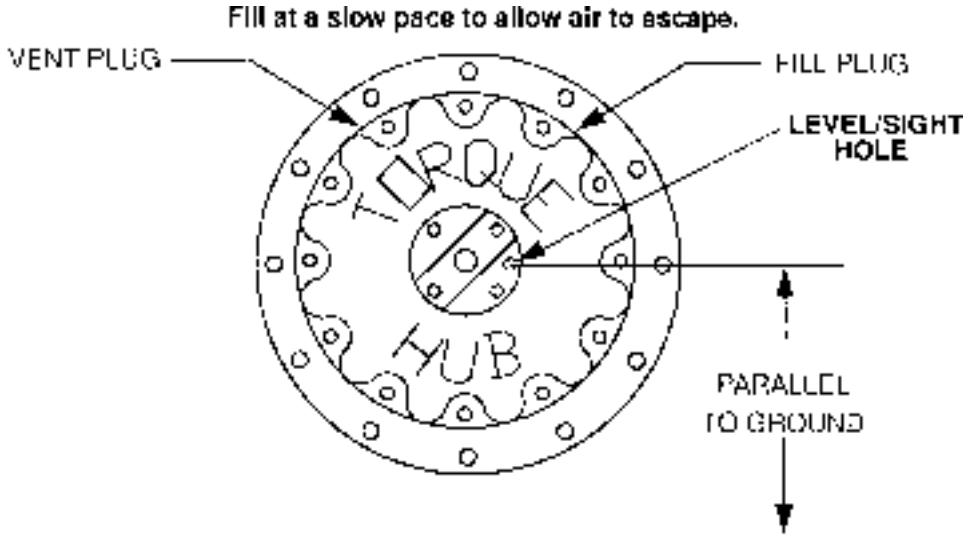
   Initial - After 50 hours. Preferably in a loaded condition.

   Subsequent - 1000 hours or (1) year whichever comes first. Higher temperatures make it necessary to change oil more frequently.

4. Oil Fill Level

   Remove fill plug
   Remove vent plug
   Pour oil into fill plug

   Fill to half-full (approximately 44 oz.)



MAINTENANCE PROCEDURES

BATTERY

TO AVOID SERIOUS BURNS, EXTREME CARE SHOULD BE USED WHEN HANDLING OR WORKING NEAR BATTTERIES.

Avoid Battery Hazards!

- Batteries produce flammable and explosive gasses. Keep electric arcs, sparks, flames, and lit cigarettes (pipes, cigars, etc.) away from batteries.

- **Battery acid will damage eyes or skin on contact. Always** wear a face shield during battery maintenance to avoid getting acid in eyes. Always wear rubber gloves and protective clothing to keep acid off skin.

- **Never** check the battery by placing a metal object across the posts. Serious burns or an explosion can result.

Checking the Battery Electrolyte Level

Check the colored "eye" in the top of the battery, a green color indicates that battery electrolyte level is okay.

Water or Acid Loss to batteries

Water loss from the battery occurs mainly as the result of evaporation brought on by temperature rises during charging. A small amount may be lost due to gasses formed during charging. Electrolyte may be lost if the case becomes cracked or the battery tips over. Therefore, electrolyte is seldom needed.

Checking the Electrolyte (Battery Water) level "physically"

When checking the electrolyte level, don't allow dirt to enter into the battery cells once the caps have been removed. Take particular care to avoid setting the battery-cell caps down on a dirty surface. Replace the caps immediately after checking the level.

MAINTENANCE PROCEDURES

BATTERY

MATERIALS AND EQUIPMENT REQUIRED

1. Battery Filler Bottle
2. Distilled Water
3. Hydrometer

FILLING THE BATTERY

Use a hydrometer to see how much charge the battery has. A reading of 1,260 or more in all cells indicates a fully-charged condition. (See chart on following page.) If the battery is fully charged, add water up to the level indicator.

If the battery's water level is below the lead plates, add only enough water to barely cover the plates.

Note: Either excessive overcharge or moderate undercharge can shorten battery life. With proper attention to water level, charging time, and hydrometer readings, the batteries should have a long, useful life.

Note: Cold temperatures have a numbing effect on the electrical action of the battery, greatly reducing its capacity. Therefore, it is highly recommended that the battery be kept fully charged during cold weather.

MAINTENANCE PROCEDURES

BATTERY

Temperature/Specific Gravity Correction table For Batteries
Actual Hydrometer Reading At Actual Temperature (^{0}F)
Table 1:

80^0 F. (27^0C)	0^0 F. (-18^0C)	-10^0 F. (-23^0C)	-20^0 F. (-29^0C)	-30^0 F. (-34^0C)	-45^0 F. (-43^0C)	-65^0 F. (-54^0C)	Approx. State of Charge - %
1.280	1.312	1.316	1.320	1.324	1.330	1.338	100
1.250	1.282	1.286	1.290	1.294	1.300	1.308	75
1.220	1.252	1.256	1.260	1.264	1.270	1.278	50
1.190	1.222	1.226	1.230	1.234	1.240	1.248	25
1.160	1.192	1.192	1.200	1.204	1.210	1.218	0

Table 2: Specific Gravity

Corrected to 80^0 F. (17^0 C)	Freezing Temperatures
1.280	-90^0 F. (-68^0 C)
1.250	-62^0 F. (-52^0 C)
1.200	-16^0 F. (-27^0 C)
1.150	$+05^0$ F. (-15^0 C)
1.000	$+19^0$ F. (-07^0 C)

NOTES